



[22750/482]

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

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In re Application of: : Examiner:
: William P. Watkins III
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For: PERFORATED NONWOVEN FABRIC AND : Art Unit 1772
METHOD FOR ITS MANUFACTURE :
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Filed: August 9, 2001 :
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Serial No.: 09/807,508 :
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Date: *November 16, 2006*

Signature: *Abigail Harty*

APPEAL BRIEF TRANSMITTAL

SIR:

Accompanying this Appeal Brief Transmittal is an Appeal Brief pursuant to 37 C.F.R. § 41.37 **in triplicate** as a courtesy (even though not required) for filing in the above-identified patent application. The Notice of Appeal was mailed on September 11, 2006 and filed on September 18, 2006, so that the two-month Appeal Brief due date is November 18, 2006.

Please charge the appropriate fees of **\$500.00** (which includes the Appeal Brief fee under 37 C.F.R. § 1.17(c) (which is believed to be \$500.00)) to Deposit Account No. **11-0600**. The Commissioner is also authorized, as necessary and/or appropriate, to charge any additional and appropriate fees, including any Rule 136(a) extension fees, or credit any overpayment to Deposit Account No. **11-0600**. Two copies of this transmittal are enclosed for these purposes.

Respectfully submitted,

Dated: *November 16, 2006*

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Date: November 14, 2004

Signature: *Josephine Hardy*

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37

S I R:

In the above-identified patent application ("the present application"), Appellants mailed a Notice of Appeal on September 11, 2006 from the Final Office Action issued by the United States Patent and Trademark Office on May 31, 2006. In the Final Office Action, claims 11 to 15, 17 to 25, and 27 to 30 were finally rejected.

A "Reply Under 37 C.F.R. §1.116" was filed on July 10, 2006 in response to the Final Office Action, and an Advisory Action was mailed by the United States Patent and Trademark Office on July 28, 2006. A second "Reply Under 37 C.F.R. § 1.116", identical to the "Reply Under 37 C.F.R. § 1.116" filed on July 10, 2006, was inadvertently filed on

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August 30, 2006. A second Advisory Action was mailed by the United States Patent and Trademark Office on July 28, 2006 pointing out that the second "Reply Under 37 C.F.R. § 1.116" of August 30, 2006 was identical to the first "Reply Under 37 C.F.R. § 1.116" of July 10, 2006 and referring Appellants to the arguments made in the first Advisory Action.

This Appeal Brief is submitted in support of the appeal of the final rejections of claims 11 to 15, 17 to 25, and 27 to 30. It is respectfully submitted that the final rejections of claims 11 to 15, 17 to 25, and 27 to 30 should be reversed for at least the following reasons.

I. Real Party in Interest

The real party in interest in the present appeal is Firma Carl Freudenberg of Weinheim in the Federal Republic of Germany. Firma Carl Freudenberg is the assignee of the entire right, title and interest in the present application.

II. Related Appeals and Interferences

There are no other prior or pending appeals, interferences or judicial proceedings known by the undersigned, or believed by the undersigned to be known to Appellants or the assignee, Firma Carl Freudenberg, "which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal."

III. Status of Claims

The claims on appeal in the present appeal are claims 11 to 15, 17 to 25, and 27 to 30.

Claims 11 to 15, 17 to 25, and 27 to 30 stand finally rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 4,840,829 ("Suzuki et al."), U.S. Patent No. 5,162,074 ("Hills"), U.S. Patent No. 5,783,503 ("Gillespie et al."), U.S. Patent No. 5,112,690

("Cohen et al."), and U.S. Patent No. 6,004,306 ("Robles et al.")).

IV. Status of Amendments

A first "Reply Under 37 C.F.R. § 1.116" was filed on July 10, 2006 and a second "Reply Under 37 C.F.R. § 1.116" was filed on August 30, 2006, both in response to the Final Office Action issued on May 31, 2006. No proposed amendments to the claims were presented in either the first or the second Reply Under 37 C.F.R. § 1.116.

V. Summary of Claimed Subject Matter

An aspect of the present application relates to a perforated nonwoven fabric, including interlaced continuous microfiber filaments having a titer in a range of 0.05 to 0.40 dtex. Specification at p. 6, lines 10-13. The microfiber filaments are composed of at least two thermoplastic polymers having different hydrophobicity. Specification at p. 6, lines 13-15. The at least two thermoplastic polymers have either a pie filament cross-section or a hollow pie filament cross-section, from which split filaments have been released, perforations being clearly formed and being free of split-fiber filaments. Specification at p. 6, lines 13-18. The perforated nonwoven fabric has a mass per unit area of 8 to 17 g/m². Specification at p. 6, lines 9-12, p. 13, line 25, and the Abstract. The perforated nonwoven fabric is impregnated with at least one surface-active agent. Specification at p. 9, lines 1-19, p. 11, lines 18-21. The perforated nonwoven fabric does not exceed 0.20% by weight in relation to the nonwoven weight of the at least one surface-active agent. Specification at p. 11, lines 23-25.

An aspect of the present application relates to a method for producing a perforated nonwoven fabric. Specification, p. 7, lines 7-8. The method includes laying up one of splittable pie and splittable hollow pie continuous fibers, a

cross-section of which having at least two different thermoplastic polymers having different hydrophobicity in an alternating cake-piece arrangement to form a nonwoven fabric. Specification, p. 7, lines 7-12. After the laying up step, the split filaments are split and entangled by high-pressure water jets to form interlaced microfiber filaments. Specification, p. 7, lines 12-14. After the splitting and entangling step, the nonwoven fabric is perforated using high-pressure water jets and the perforated nonwoven fabric is impregnated with at least one surface-active agent. Specification at p. 7, lines 14-15 and p. 11, lines 18-21. The perforated nonwoven fabric does not exceed 0.20% by weight in relation to the nonwoven weight of the at least one surface-active agent. Specification at p. 11, lines 23-25.

An aspect of the present application relates to a hygiene product including a topsheet having a perforated nonwoven fabric including interlaced continuous microfiber filaments having a titer in a range of 0.05 to 0.40 dtex. Specification, p. 6, lines 9-13 and lines 26-27. The microfiber filaments are composed of at least two thermoplastic polymers having different hydrophobicity and having one of a pie filament cross-section and a hollow pie filament cross-section, from which split filaments have been released, perforations being clearly formed and being free of split-fiber filaments. Specification at p. 6, lines 13-18. The perforated nonwoven fabric has a mass per unit area of 8 to 17 g/m². Specification at p. 6, lines 9-12, p. 13, line 25, and the Abstract. The perforated nonwoven fabric is impregnated with at least one surface-active agent. Specification at p. 7, lines 14-15 and p. 11, lines 18-21. The perforated nonwoven fabric does not exceed 0.20% by weight in relation to the nonwoven weight of the at least one surface-active agent. Specification at p. 11, lines 23-25.

VI. Grounds of Rejection to be Reviewed on Appeal

The grounds of rejection for review are:

Whether the combination of Suzuki et al., Hills, Gillespie et al., Cohen et al., and Robles et al. renders claims 11 to 15, 17 to 25, and 27 to 30 unpatentable under 35 U.S.C. § 103(a)?

VII. Arguments

Claims 11 to 15, 17 to 25, and 27 to 30 stand finally rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Suzuki et al., Hills, Gillespie et al., Cohen et al., and Robles et al. Appellants respectfully submit that the combination of Suzuki et al., Hills, Gillespie et al., Cohen et al., and Robles et al. does not render unpatentable the present claims for at least the following reasons and respectfully submit that the present rejection should be reversed.

Claim 11 relates to perforated nonwoven fabric. Claim 18 relates to a method for producing a perforated nonwoven fabric. Claim 20 relates to a hygiene product. Claims 11 and 20 recite, *inter alia*, that the perforated nonwoven fabric is impregnated with at least one surface-active agent, and claim 18 recites, *inter alia*, the step of impregnating the nonwoven with at least one surface-active agent. Claims 11, 18, and 20 further recite, *inter alia*, that the perforated nonwoven fabric does not exceed 0.20% by weight in relation to the nonwoven weight of the at least one surface-active agent.

Suzuki et al. purportedly relate to a nonwoven fabric patterned with apertures. Gillespie et al. purportedly relate to meltspun multicomponent thermoplastic continuous filaments, products made therefrom, and methods therefore. Hills purportedly relates to a method of making plural component fibers. Robles et al. purportedly relate to an absorbent article with multi-directional extensible side

panels. Cohen et al. purportedly relate to a low hydrohead fibrous porous web with improved retentive wettability. Appellants respectfully submit that the combination of Suzuki et al., Gillespie et al., Hills, Robles, and Cohen et al. does not disclose, or even suggest, a perforated nonwoven fabric that does not exceed 0.20% by weight in relation to the nonwoven weight of the at least one surface-active agent, as required by claims 11 and 20, nor the step of impregnating the perforated nonwoven fabric with at least one surface-active agent, wherein the perforated nonwoven fabric does not exceed 0.20% by weight in relation to the nonwoven weight of the at least one surface-active agent, as required by claim 18.

The Final Office Action relies upon Cohen et al. for their alleged disclosure of a perforated nonwoven fabric that does not exceed 0.20% by weight in relation to the nonwoven weight of the at least one surface-active agent. Cohen et al. disclose two possible application methods for the surface-active agent: (i) adhering the surface-active agent to the surface of the nonwoven material (see, e.g., col. 6, lines 8 to 10 and col. 13, lines 29 to 37), and (ii) adding the surface active agent to a melt, which is used to form the nonwoven material (see, e.g., col. 6, lines 36 to 41).

In regard to the first application method, adhering surface-active agent to the surface of the nonwoven material does not result in a perforated nonwoven fabric that is impregnated with at least one surface-active agent, as required by claims 11, 18, and 20. Col. 6, lines 8 to 10, of Cohen et al. (emphasis added) state "[f]rom about 0.05% to about 3%, by weight of the web material, of surface-active agent may be adhered to the web material." See also col. 5, lines 66 to 67, and col. 7, lines 32 to 34, which also specifically state that the surface-active agent is adhered to the web material. Adhering a substance to a surface means that the substance remains substantially on the surface as opposed to substantially mixing into and integrating with the underlying

substrate. Therefore, Cohen et al.'s first application method does not result in a perforated nonwoven fabric that is impregnated with at least one surface-active agent, as required by claims 11, 18, and 20.

In regard to the second application method, Cohen et al.'s disclosure of a surface concentration of as low as 0.05% in no way discloses, or even suggests, an overall weight percentage of surface-active agent relative to the nonwoven material over 0.20%, as required by claim 11, 18, and 20. See col. 6, lines 37 to 42. Cohen et al. specifically recognize that not all of the surface-active agent added to the melt actually blooms and state, therefore, that the amount of surface active agent added to the melt should be greater than the amount desired to be present in the portions of the nonwoven adjacent its surface. See col. 6, lines 51 to 54. Cohen et al. do not state directly the amount of surface-active agent to be added to the melt necessary to achieve the 0.05% surface concentration but do provide examples of various melts, all of which indicate that the required overall weight percentage of surfactant relative to the blend is over 0.20%. In the examples, the overall amount of surfactant relative to blend provided by Cohen et al., i.e., 0.45%, 0.5% to 0.8%, and 0.6% to 0.7%, are all above the maximum of 0.20% required by claims 11, 18, and 20. See col. 11, lines 1 to 24. Therefore, Cohen et al. do not disclose, or even suggest, an overall weight percentage of surface-active agent relative to the nonwoven material of over 0.20%, as required by claim 11, 18, and 20.

The Advisory Action relies upon col. 6, lines 5 to 20 and lines 35 to 50 of Cohen et al. However, all the surface-active agent concentrations referred to on lines 5 to 20 and lines 35 to 50 refer to surface-active agent concentrations in the portions of the nonwoven web material adjacent its surface not the weight of the surface-active agent in relation to the overall nonwoven weight. Lines 35 to

42 of col. 6 (emphasis added) state that the Cohen et al. method includes "adding to the melt, an amount of surface active agent. . . to effect a surface concentration of the surface active agent of at least about 0.05%, by weight of the resulting fibrous porous web material" and col. 6, lines 51 to 54 (emphasis added) state "[b]ecause not all of the surface active agent added to the melt blooms, the amount of surface active agent added to the melt is generally greater than the amount desired to be present on the surface." Therefore, and consistent with the exemplary embodiments discussed by Cohen et al., which, as indicated above, are all above the maximum of 0.20% required by claims 11, 18, and 20, it is eminently clear from the context of Cohen et al. that all reference to concentrations below 0.20% refer to concentrations of the surface active agent specifically in portions of the web material adjacent its surface and not to the weight of the surface-active agent in relation to the overall nonwoven weight. For this specific reason Cohen et al. discuss at col. 6, lines 51 to 54 that given not all of the surface active agent added to the starting material for the nonwoven blooms to the surface of the nonwoven (to achieve the discussed desired surface concentrations) a greater amount of surface active agent is added to the bloom. Therefore, to achieve the surface concentration of .05% to 3% discussed at col. 6, line 8, some larger unspecified amount must be added to the nonwoven starting material. Nowhere do Cohen et al. disclose, or even suggest, that the overall weight percentage of surfactant relative to the melt to which it is added is under 0.20%. On the contrary, as indicated above, the only examples of overall weight percentage of surfactant relative to the blend disclosed by Cohen et al. are all over 0.20%.

Therefore, for all the foregoing reasons, Cohen et al. do not disclose, or even suggest, all of the limitations of claims 11, 18, and 20.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish *prima facie* obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim limitations. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). As stated above, the combination of Suzuki et al., Hills, Gillespie et al., Cohen et al., and Robles et al. fails to disclose, or even suggest, each and every feature of claims 11, 18 and 20. It is therefore respectfully submitted that the combination of Suzuki et al., Hills, Gillespie et al., Cohen et al., and Robles et al. does not render obvious claims 11, 18 and 20.

Dependent claims 12 to 15, 17 and 28 depend from independent claim 11 and therefore include all of the limitations of independent claim 11. Dependent claims 19 and 29 depend from independent claim 18 and therefore include all of the limitations of independent claim 18. Dependent claims 21 to 25, 27 and 30 depend from independent claim 20 and therefore include all of the limitations of independent claim 20. Therefore, it is respectfully submitted that these dependent claims are patentable over the combination of Suzuki et al., Hills, Gillespie et al., Cohen et al., and Robles et al. for at least the same reasons provided above in support of the patentability of independent claims 11, 18 and 20,

respectively. *In re Fine, supra* (any dependent claim that depends from a non-obvious independent claim is non-obvious).

Therefore, for all the foregoing reasons, reversal of this rejection is respectfully requested.

VIII. Claims Appendix

An appendix containing a copy of the claims involved in the present appeal is attached hereto.

IX. Evidence Appendix

No evidence has been submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132. No other evidence has been entered by the Examiner or relied upon by Appellants in the appeal. An "Evidence Appendix" is nevertheless attached hereto.

X. Related Proceedings Appendix

As indicated above in Section II, "[t]here are no other prior or pending appeals, interferences or judicial proceedings known by the undersigned, or believed by the undersigned to be known to Appellants or the assignee, Firma Carl Freudenberg, 'which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.'" As such, there are no "decisions rendered by a court or the Board in any proceeding identified pursuant to [37 C.F.R. § 41.37(c)(1)(ii)]" to be submitted. A "Related Proceedings Appendix" is nevertheless attached hereto.

XI. Conclusion

In view of the above, it is respectfully requested that the rejections of claims 11 to 15, 17 to 25, and 27 to 30 be reversed and that these claims be allowed as presented.

Respectfully submitted,

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Claims Appendix

11. A perforated nonwoven fabric, comprising:
interlaced continuous microfiber filaments having a titer in a range of 0.05 to 0.40 dtex, the microfiber filaments being composed of at least two thermoplastic polymers having different hydrophobicity and having one of a pie filament cross-section and a hollow pie filament cross-section, from which split filaments have been released, perforations being clearly formed and being free of split-fiber filaments;

wherein the perforated nonwoven fabric has a mass per unit area of 8 to 17 g/m²; and

wherein the perforated nonwoven fabric is impregnated with at least one surface-active agent, and

wherein the perforated nonwoven fabric does not exceed 0.20% by weight in relation to the nonwoven weight of the at least one surface-active agent.

12. The perforated nonwoven fabric according to claim 11, wherein the perforations are evenly spaced and have an individual-hole area of 0.01 to 0.60 cm².

13. The perforated nonwoven fabric according to claim 11, wherein a ratio between a maximum distance from points on a nonwoven surface to a next perforation and a minimum distance is 1:1 to 2:1.

14. The perforated nonwoven fabric according to claim 11, wherein an open hole area is 8 to 40%.

15. The perforated nonwoven fabric according to claim 11, wherein the microfiber filaments include polyolefin and polyester filaments in a weight ratio in a range of 20:80 to 80:20.

17. The perforated nonwoven fabric according to claim 11, wherein a strike through value of after one minute is less than three seconds, a rewet value is less than 0.59 and a tensile strength in a longitudinal direction is at least 30N/5 cm.

18. A method for producing a perforated nonwoven fabric, comprising the steps of:

laying up one of splittable pie and splittable hollow pie continuous fibers, a cross-section of which having at least two different thermoplastic polymers having different hydrophobicity in an alternating cake-piece arrangement to form a nonwoven fabric;

after the laying up step, splitting and entangling the split filaments by high-pressure water jets to form interlaced microfiber filaments;

after the splitting and entangling step, perforating the nonwoven fabric using high-pressure water jets; and

impregnating the perforated nonwoven fabric with at least one surface-active agent, wherein the perforated nonwoven fabric does not exceed 0.20% by weight in relation to the nonwoven weight of the at least one surface-active agent.

19. The method according to claim 18, wherein the perforating step is performed on hydroextraction and hole-forming cylinders having elevations on a surface thereof.

20. A hygiene product, comprising:

a topsheet having a perforated nonwoven fabric including interlaced continuous microfiber filaments having a titer in a range of 0.05 to 0.40 dtex, the microfiber filaments being composed of at least two thermoplastic polymers having different hydrophobicity and having one of a pie filament cross-section and a hollow pie filament cross-section, from which split filaments have been released, perforations being clearly formed and being free of split-fiber filaments;

wherein the perforated nonwoven fabric has a mass per unit area of 8 to 17 g/m²; and

wherein the perforated nonwoven fabric is impregnated with at least one surface-active agent, and

wherein the perforated nonwoven fabric does not exceed 0.20% by weight in relation to the nonwoven weight of the at least one surface-active agent.

21. The hygiene product according to claim 20, wherein the hygiene product includes at least one of a diaper and a sanitary napkin.

22. The hygiene product according to claim 20, wherein the perforations are evenly spaced and have an individual-hole area of 0.01 to 0.60 cm².

23. The hygiene product according to claim 20, wherein a ratio between a maximum distance from points on a nonwoven surface to a next perforation and a minimum distance is 1:1 to 2:1.

24. The hygiene product according to claim 20, wherein an open hole area is 8 to 40%.

25. The hygiene product according to claim 20, wherein the microfiber filaments include polyolefin and polyester filaments in a weight ratio in a range of 20:80 to 80:20.

27. The hygiene product according to claim 20, wherein a strike through value after one minute is less than three seconds, a rewet value is less than 0.59 and a tensile strength in a longitudinal direction is at least 30N/5 cm..

28. The perforated nonwoven fabric of claim 11, wherein the at least one surface-active agent is a wetting agent one of (a) in dispersed form and (b) dissolved in water.

29. The method of claim 18, wherein the at least one surface-active agent is a wetting agent one of (a) in dispersed form and (b) dissolved in water.

30. The hygiene product of claim 20, wherein the at least one surface-active agent is a wetting agent one of (a) in dispersed form and (b) dissolved in water.

Evidence Appendix

No evidence has been submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132. No other evidence has been entered by the Examiner or relied upon by Appellants in the appeal.

Related Proceedings Appendix

As indicated above in Section II, "[t]here are no other prior or pending appeals, interferences or judicial proceedings known by the undersigned, or believed by the undersigned to be known to Appellants or the assignee, Firma Carl Freudenberg, 'which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.'" As such, there are no "decisions rendered by a court or the Board in any proceeding identified pursuant to [37 C.F.R. § 41.37(c)(1)(ii)]" to be submitted.